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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,470	09/28/2001	Phillip McGee	114293-3000	1756

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EXAMINER

WALLING, MEAGAN S

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/964,470

Applicant(s)

MCGEE ET AL.

Examiner

Meagan S Walling

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- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 and 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tambini (US 5,581,042).

Regarding claim 1, Tambini teaches an apparatus that measures the angle of rotation beyond a specific reference point (column 1, lines 49-55); and an angle indicator linked to the apparatus that indicates the current angle of rotation (column 1, lines 56-58).

Regarding claim 2, Tambini teaches an angle selector adjustable to a desired angle (column 1, lines 57-58); an angle rate sensor that measures the speed (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation applied; a processor that calculates a current angle of rotation from the rate sensor measurements (column 1, lines 53-55; column 2, lines 46-47); a zero point indicator that sets a zero point for the processor to calculate the selected angle (column 2, lines 40-42).

Regarding claim 3, the zero point is based on torque (column 2, lines 40-43).

Regarding claim 9, Tambini teaches means for measuring an angle of rotation of the fastener from a fixed reference point (column 2, lines 42-43); and means for displaying the current angle of rotation (column 2, lines 46-47).

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Regarding claim 10, Tambini teaches means for selecting a desired angle of rotation (column 1, lines 57-58), means for sensing data from the rate and speed of the rotation being applied to the fastener (column 1, lines 54-55), means for calculating the angle of rotation from the data (column 1, lines 53-55; column 2, lines 46-47), means for indicating a zero point from which the means for calculating basis the angle measurements (column 2, lines 40-42), and means for indicating the current angle as determined by the means for calculating (column 2, lines 46-47).

Regarding claim 11, Tambini teaches means for applying torque to a fastener (column 1, lines 49-50).

Regarding claim 12, Tambini teaches measuring the angle of rotation as applied to the fastener (column 2, lines 42-43); and displaying the current angle of rotation (column 2, lines 46-47).

Regarding claim 13, Tambini teaches selecting a desired angle using and angle selector on an apparatus comprising an angle selector (column 1, lines 53-54), an angle rate sensor (column 1, lines 54-55), a processor (column 2, lines 44-45), a zero point indicator (Fig. 2, Ref. 7), and an angle indicator (column 2, lines 46-47); indicating a zero point to the processor (column 2, lines 41-42); applying torque to the fastener with a tool to which the apparatus is attached to rotate the fastener (column 1, lines 49-50); measuring the rate and speed of the rotation with the angle rate sensor starting from the zero point (column 1, lines 53-55; column 2, lines 43-44); calculating an angle of rotation using the processor (column 2, lines 44-46); and displaying the current angle of rotation (column 2, lines 46-47).

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Regarding claim 14, Tambini teaches that the processor indicates that it has accepted the zero point (column 2, lines 34-38).

Regarding claim 15, Tambini teaches alerting that the desired selected angle of rotation has been reached (column 4, lines 46-48).

Regarding claim 16, Tambini teaches a tool that applies torque to a fastener to rotate the fastener (column 1, lines 49-50); an apparatus that measures the angle of rotation beyond a specific reference point (column 2, lines 42-43); and an angle indicator linked to the apparatus that indicates the current angle of rotation (column 2, lines 46-47).

Regarding claim 17, Tambini teaches an angle selector adjustable to a desired angle (column 1, lines 57-58); an angle rate sensor that measures the speed (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation applied; a processor that calculates a current angle of rotation from the rate sensor measurements (column 1, lines 53-55; column 2, lines 46-47); a zero point indicator that sets a zero point for the processor to calculate the selected angle (column 2, lines 40-42).

Regarding claim 18, Tambini teaches that the tool comprises a ratchet (column 3, lines 18-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 4, 5, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of Ermer et al. (US 2003/0040883).

Regarding claims 5 and 24, Tambini teaches a sound-generating device that activates when the selected angle of rotation has been reached (column 4, lines 46-48).

Tambini teaches all the limitations of claims 4, 5, 23, and 24 except the limitation that the angle indicator is a digital automotive tester.

Ermer et al. teaches using an external device with a digital automotive tester for measuring rotational speed (paragraphs 0009 and 0011).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and Ermer et al. to measure the rotational speed with a digital automotive tester to find the angle. The digital automotive tester does everything that a standard multimeter does and beyond (Ermer et al., paragraph 0007), so with the correct measuring device, it can be used to find the rotational speed and angle.

3. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of Stanis (US 5,095,746).

Tambini teaches all the limitations of claims 6 and 20 except the limitation that the angle selector is a potentiometer.

Stanis teaches using a potentiometer for entering a maximum angle (column 3, lines 56-59).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini with the teachings of Stanis to use a potentiometer as an angle

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selector. A potentiometer can be used for manually entering a desired angle, so it would be obvious to use it as an angle selector.

4. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of Stanis and Suzuki et al (US 4,308,779).

Tambini teaches everything claimed in claims 7 and 21 except that the angle selector is a resistance ladder.

Stain teaches that a potentiometer can be used as an angle selector (column 3, lines 56-59). Suzuki et al. teaches that a potentiometer can be in the form of a resistance ladder (column 15, lines 64-64).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini with the teachings of Stanis and Suzuki et al. to use a resistance ladder as an angle indicator. As already shown, a potentiometer can be used as an angle selector. Since a potentiometer can be in the form of a resistance ladder, a resistance ladder can also be used as an angle selector.

5. Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of Chastel et al. (US 5,571,971).

Tambini teaches all the limitations of claims 8 and 22 except the limitation that the processor is a microcontroller.

Chastel et al. teaches using a microcontroller as a processor to perform calculations (column 9, lines 48-49).

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It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini with the teachings of Chastel et al. to use a microcontroller as a processor. A microcontroller can be used to make calculations quickly and so using a microcontroller would expedite the process.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of Codrington (US 6,345,436).

Tambini teaches all the limitations of claim 19 except the limitation that the tool comprises a socket.

Codrington teaches a torque tool comprising a socket (Fig. 1, Ref. 24).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and Codrington to form a torque tool with a socket. The socket can be used to tighten a fastener such as a screw or bolt and therefore it could be used to find the angle of rotation when tightening the fastener.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tambini (US 4,211,120) teaches a tightening apparatus upon which Tambini '042 relies.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (703) 308-3084.

The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

msw
April 10, 2003


MICHAEL NGHIEM
PRIMARY EXAMINER